

We claim:-

1. Foams composed of water-absorbing basic polymers, obtainable
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 - (I) foaming a crosslinkable aqueous mixture including
 - 10 (a) at least one basic polymer whose basic groups have optionally been neutralized,
 - (b) at least one crosslinker,
 - (c) at least one surfactant,
 - (d) optionally at least one solubilizer,
 - 15 (e) optionally thickeners, foam stabilizers, fillers, fibers and/or cell nucleators, and
 - (f) optionally particulate water-absorbing acidic polymers,
- 20 by dissolving a gas which is inert toward free radicals in the crosslinkable aqueous mixture under a pressure from 2 to 400 bar and subsequently decompressing the crosslinkable aqueous mixture to atmospheric or by dispersing fine bubbles
25 of a gas which is inert toward free radicals, and
 - (II) crosslinking the foamed mixture to form a hydrogel foam and if applicable adjusting the water content of the polymer foam to 1-60% by weight.
- 30 2. Foams as claimed in claim 1, wherefor the basic polymers used are polymers containing vinylamine units, polymers containing vinylguanidine units, polymers containing dialkylaminoalkyl(meth)acrylamide units, polyethyleneimines,
35 ethylenimine-grafted polyamidoamines and polydiallyldimethylammonium chlorides.
3. Foams as claimed in claim 1 or 2, wherefor the basic polymers used are polymers containing vinylamine units,
40 polyvinylguanidines and polyethyleneimines.
4. Foams as claimed in claim 1, wherefor the basic polymers used are polyvinylamines and/or up to 10-100% hydrolyzed poly-N-vinylformamides.
- 45 5. Foams as claimed in any of claims 1 to 4, whose surface has been postcrosslinked.

6. Foams as claimed in any of claims 1 to 5, wherein the water-absorbing basic polymers additionally include finely divided water-absorbing acidic polymers, the polymer mixture including from 10 to 90% by weight of water-absorbing acidic polymers.
7. Foams as claimed in any of claims 1 to 6, wherein the water-absorbing acidic polymers are crosslinked acrylic acids having a particle diameter from 10 to 2000 μm .
8. A process for producing foams composed of water-absorbing basic polymers, which comprises
- (I) foaming a crosslinkable aqueous mixture including
- (a) at least one basic polymer whose basic groups have optionally been neutralized,
- (b) at least one crosslinker,
- (c) at least one surfactant,
- (d) optionally at least one solubilizer,
- (e) optionally thickeners, foam stabilizers, fillers, fibers and/or cell nucleators, and
- (f) optionally particulate water-absorbing acidic polymers,
- by dissolving a gas which is inert toward free radicals in the crosslinkable aqueous mixture under a pressure from 2 to 400 bar and subsequently decompressing the crosslinkable aqueous mixture to atmospheric or by dispersing fine bubbles of a gas which is inert toward free radicals, and
- (II) crosslinking the foamed mixture to form a hydrogel foam and if applicable adjusting the water content of the polymer foam to 1-60% by weight.
9. A process as claimed in claim 8, wherein from 0.05 to 20 parts by weight of an acidic water-absorbing polymer having a degree of neutralization from 0 to 75 mol% are used per part by weight of a basic polymer.
10. A process as claimed in claim 8 or 9, wherein the crosslinkable aqueous mixture includes from 0.1 to 30% by weight of a hydrocarbon.

11. The use of the foams of claims 1 to 7 in hygiene articles to absorb body fluids, in dressing material to cover wounds, as a sealing material, as a packaging material, as a soil improver, as a soil substitute, to dewater sludges, to absorb aqueous acidic wastes, to thicken waterborne paints or coatings in the course of disposing of residual quantities thereof, to dewater water-containing oils or hydrocarbons or as a material for filters in ventilation systems.

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